



**RADM A. J. Johnson  
Naval Safety Center**

**Submarine PCO Course**

7 Mar 2008



# Submarine PCO Safety

- The cost of Class A Mishaps
- Afloat Mishaps
- PMV Mishaps
- Off duty and recreation mishaps
- Fatigue Study
- ORM
- Improving safety at your command
- What the Naval Safety Center can offer you



**Submarines are seldom caught on camera  
when things like this happen, but...**

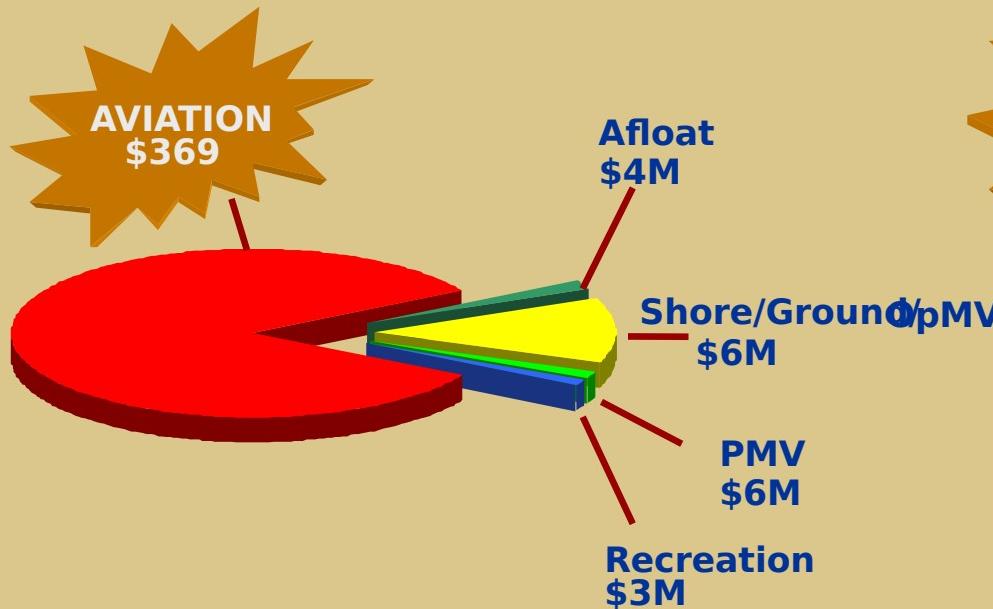
# The Missile Deck



# FY08 Total Cost and Deaths

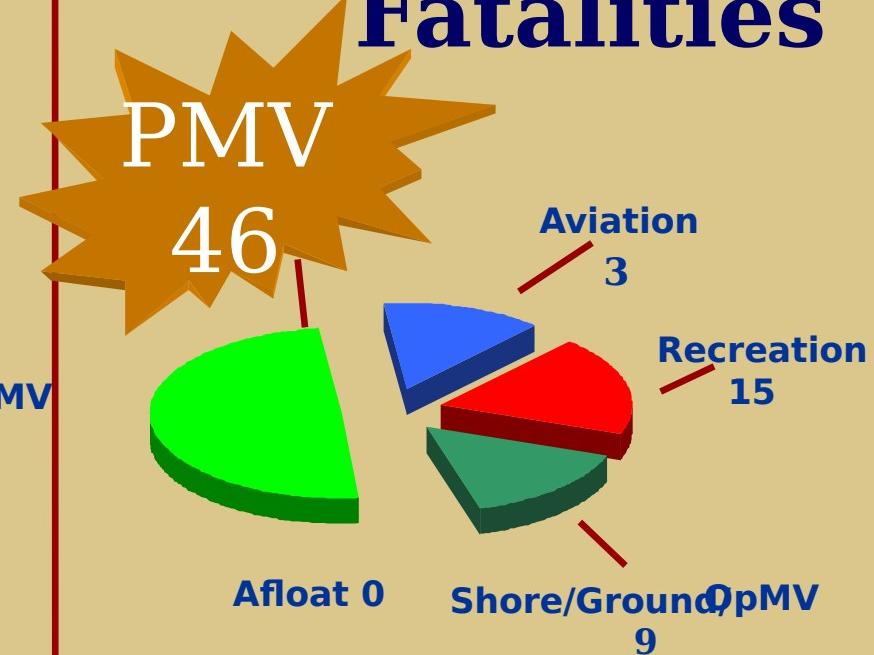
## Navy and Marine Corps

### Cost



**Total Cost: \$388M**

### Fatalities



**Total Fatalities: 73**



# Poor Leadership / Inadequate Follow-Up

**Navigation Inspection revealed extensive navigational weak points**

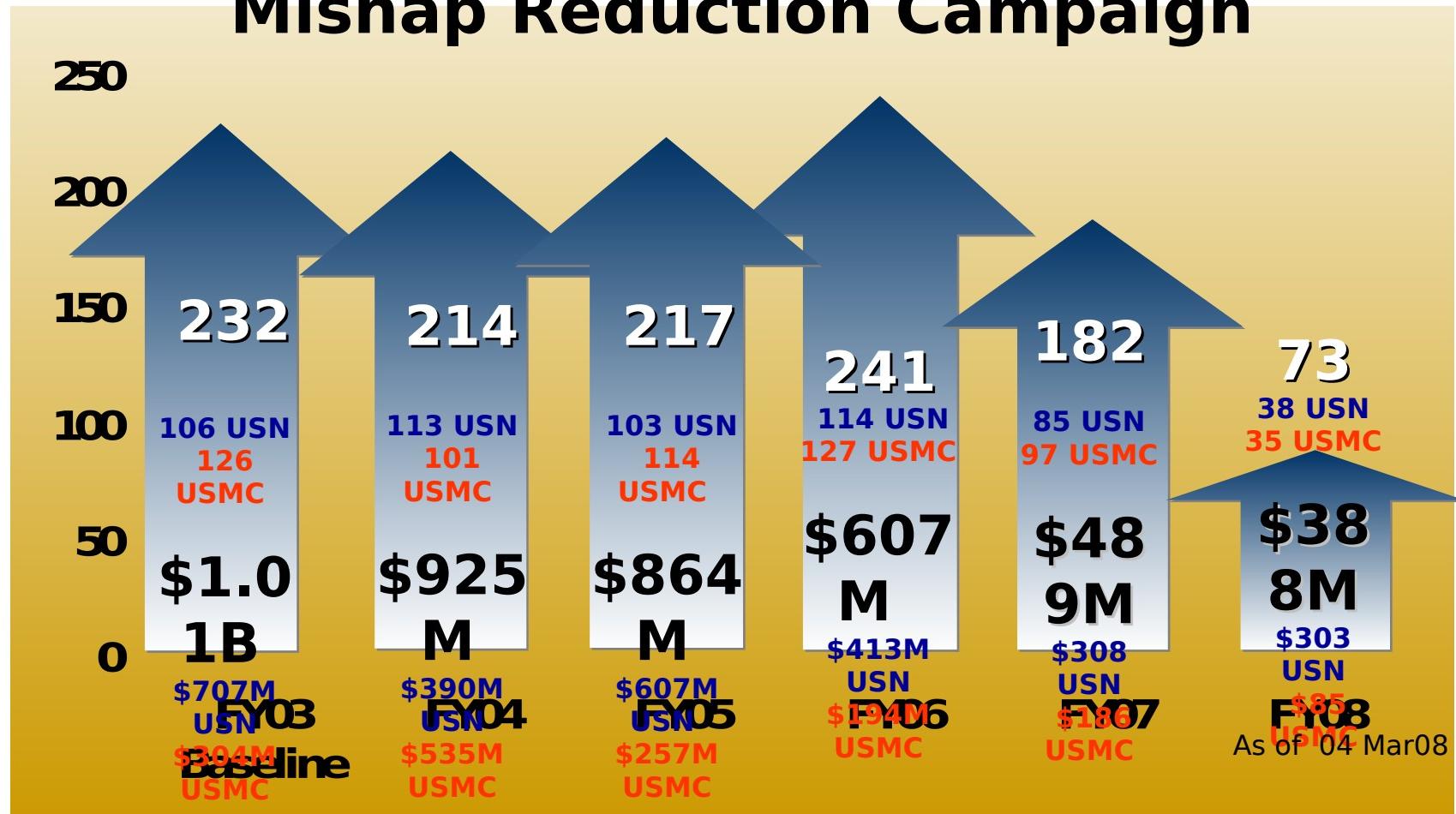
- Ship reported corrective action complete with the intention to hone skill underway
- No follow-up verification conducted by ISIC

- Primary Cause: Lack of due diligence in voyage planning and risk assessment.
- Cost: Near loss of the ship and crew! 1 Death, 29 Hospitalized, almost entire crew injured, initial estimate of damages \$100,000,000 with true cost expected to exceed \$500,000,000



# USN/USMC Fatalities & Resources Lost During

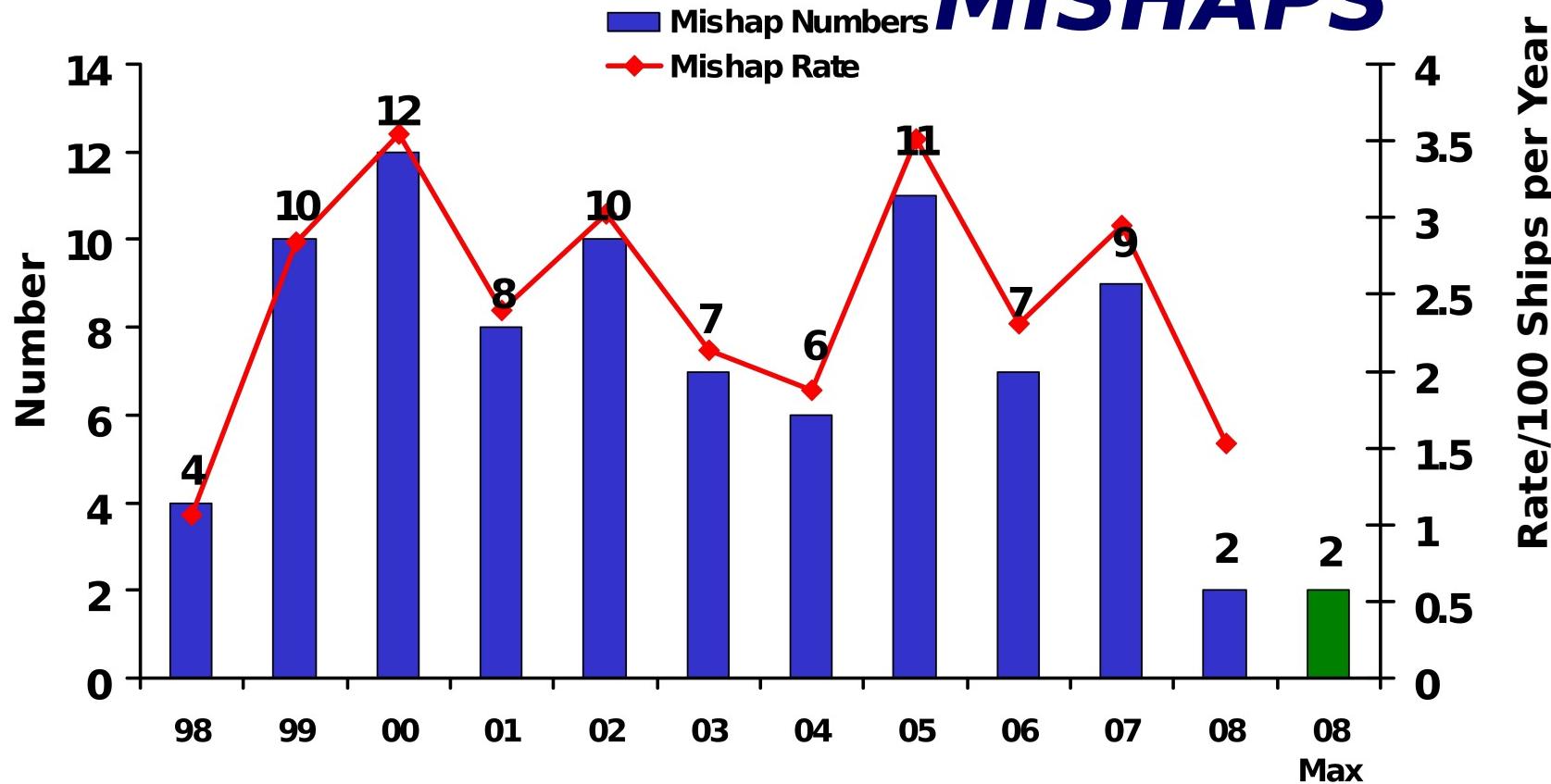
## Mishap Reduction Campaign



**ENDSTATE GOAL IS ZERO!**



# CLASS A AFLOAT MISHAPS



0 Class A Afloat Mishaps during this reporting period 01 Mar - 04 Mar 07 Mar

CLASS A MISHAPS/MISHAP RATE FY COMPARISON:  $2 / 1.53$   
FY07  
8 / 6.16

MISHAPS/MISHAP RATE:  $9 / 2.95$   
10 YEAR AVERAGE (FY00-07)

SUB PCO March 2008

MISHAPS/MISHAP RATE:  $8.4 / 2.54$



# Areas of Concern - Afloat

- Human error/negligence are the primary causes of incidents.
  - Inadequate or Unsafe Supervision
  - PMS not accomplished and not recognized by Supervision
  - Poor Crew Resource Management
  - Lack of Situational Awareness
  - Complacency
  - Inadequate ORM
- Strict adherence to CO's Standing Orders, SSORM and Rules of the Road critical to safe operation.
- Chronic fatigue impacts decision making ability and judgment. Test and know the limits of your crew.
  - Schedule shipboard evolutions to ensure recuperative sleep.
- Shipboard maintenance evolutions must adhere to the Joint Fleet Maintenance Manual and ensure Quality Assurance before, during and upon completion of every evolution.



# Best Fleet Practices - Afloat

**Integrate ORM into all training, On and Off-Duty activities.**

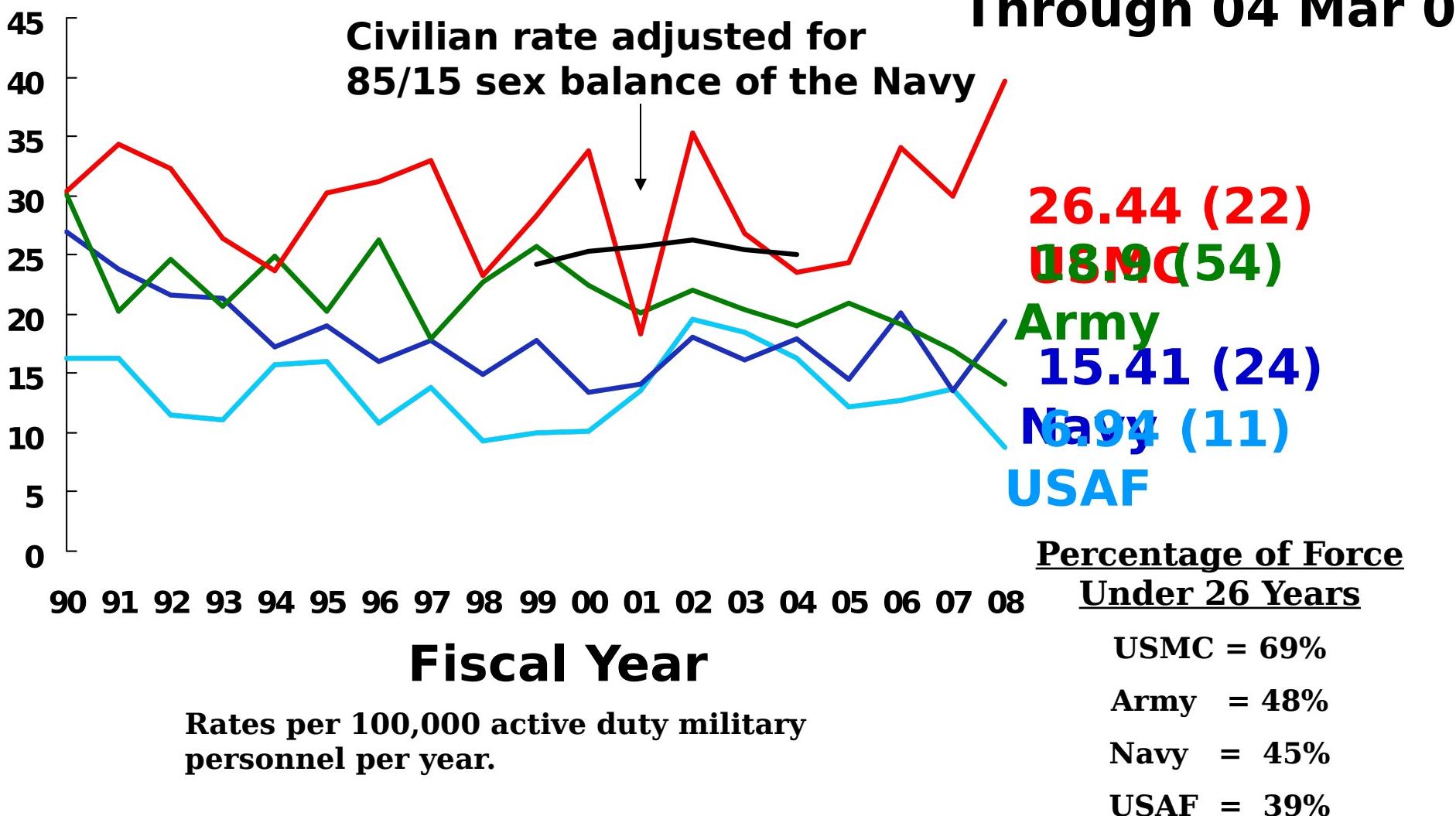
1. Visible senior leadership support for/and verification of ORM by work center personnel during daily activities.
2. Departmental/Divisional quarters – Led by Officers and Senior Enlisted leaders. (Lead from the front!)
3. Intrusive leadership at all levels – Be Involved!
4. Consistent use and application of Risk Management throughout chain-of-command!



# Why Everyone Should Wear A Seatbelt.



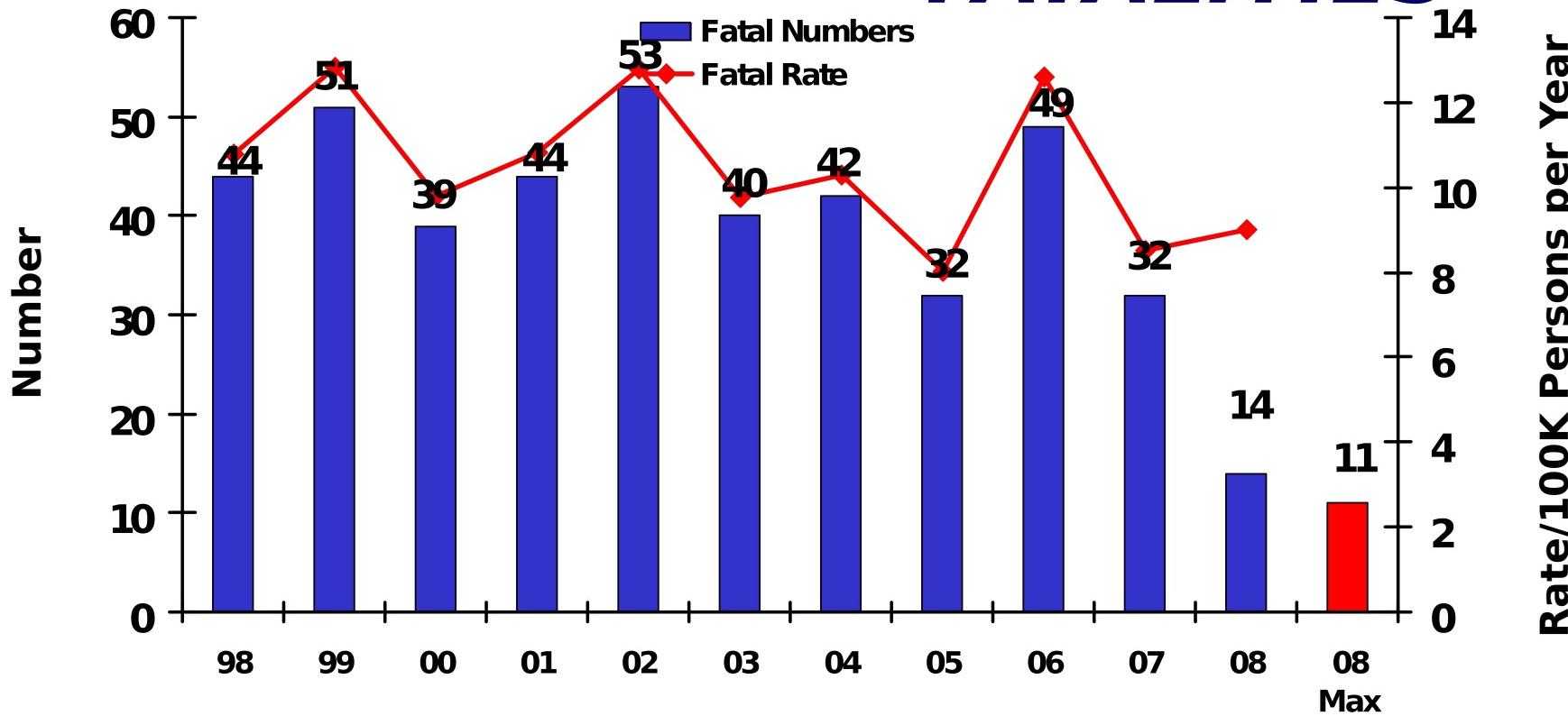
# Armed Forces Traffic Death Rates (FY90-08)



**uidman.ca**



# 4-WHEEL PMV FATALITIES



\*pedestrian fatalities not included

0 Four-Wheel Fatality during this reporting period 04 Mar 08 04 Mar 07 Mar

CLASS A FATALITIES/FATALITY RATE FY COMPARISON: 14 / 8.99 13 / 8.11  
FY07 FATALITIES/FATALITY

RATE: 32 / 8.53

10-YEAR AVERAGE (REV 07) FATALITIES/FATALITY RATE: 42.6 / 10.64

SUB PGO - March 2008

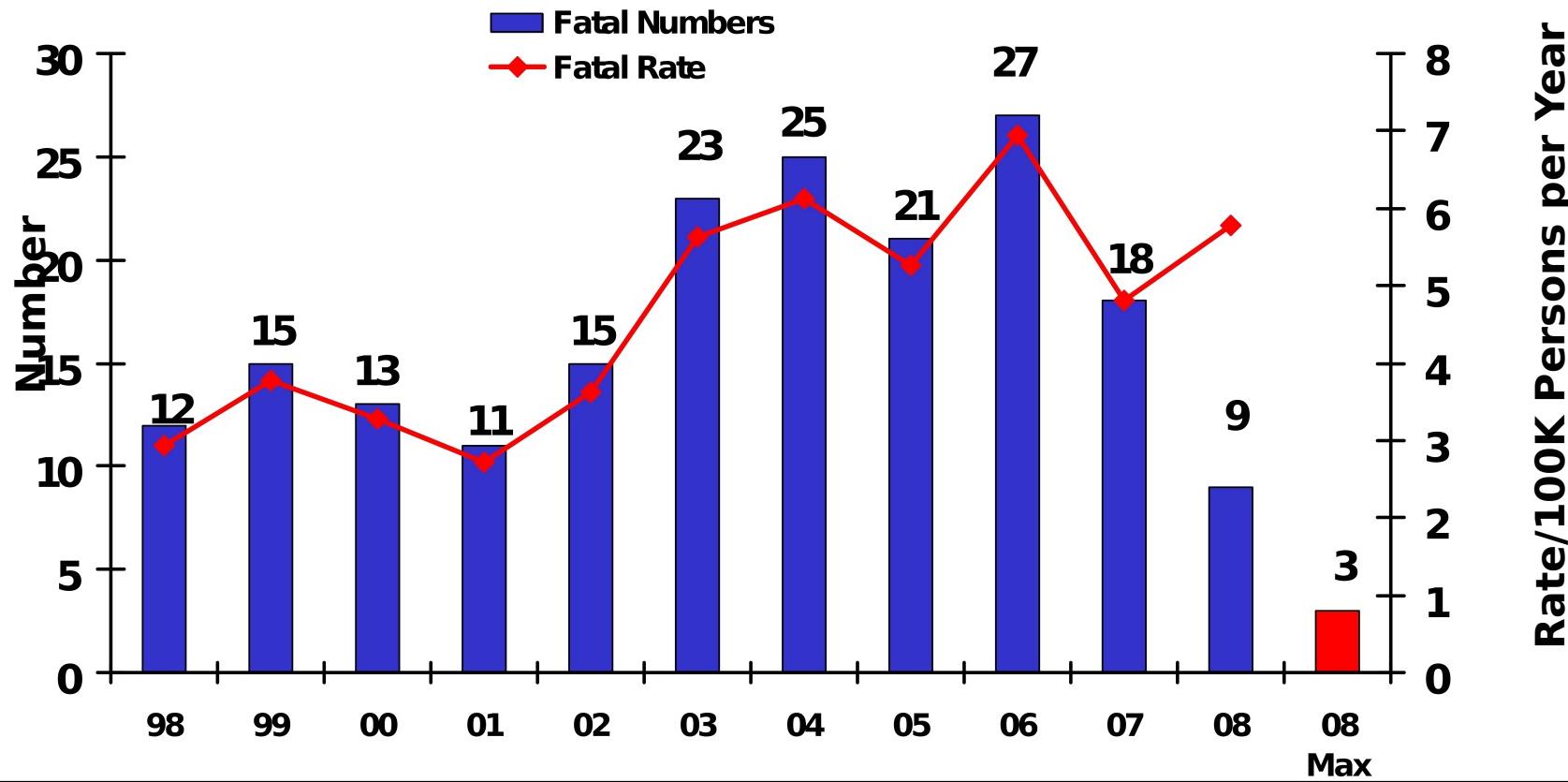


# Are these Sailors part of your crew!





# MOTORCYCLE PMV FATALITIES



0 Motorcycle Fatalities during this reporting period 01 Mar 08 01 Mar 07

Mar 07 Mar - 07 Mar

CLASS A FATALITIES/FATALITY RATE FY COMPARISON:  $9 / 5.78$   $4.37$  FY07

FATALITIES/FATALITY RATE:  $18 / 4.80$

10-YEAR AVERAGE (FYS 00-07) FATALITIES/FATALITY RATE:  $18.0 / 4.50$

STUB PCO March 2008

04

$7 /$



# Motorcycle Types



Sport Touring 1100-1800cc  
450-650lb, High performance



Dirt Bike 50-650cc  
High ground clearance, not road ready



Standard 650-1800cc,  
700-1200lb, High power



Super Sport 650-1100cc  
290-350lb, High performance



Intro Bike 125-500cc,  
200-500lb



Sport Unclad 650-1100cc  
290-350lb, High performance



Scooters 50-650cc



# Motorcycle Safety





# FLEET BEST PRACTICES – PMV

1. Understand who your risk takers are and help them manage risk; engaged mentorship
2. Recognize that becoming a safe driver is part of a young person's maturing process and is not complete until age 25
3. Use the Traffic Safety Toolbox on the Safety Center Website to help reduce mishaps
4. Engage in partnerships with local community. (Click It or Ticket, *You Drink, You Drive, You Lose*, MADD)
5. Solicit family members to help keep loved ones safe with letters home

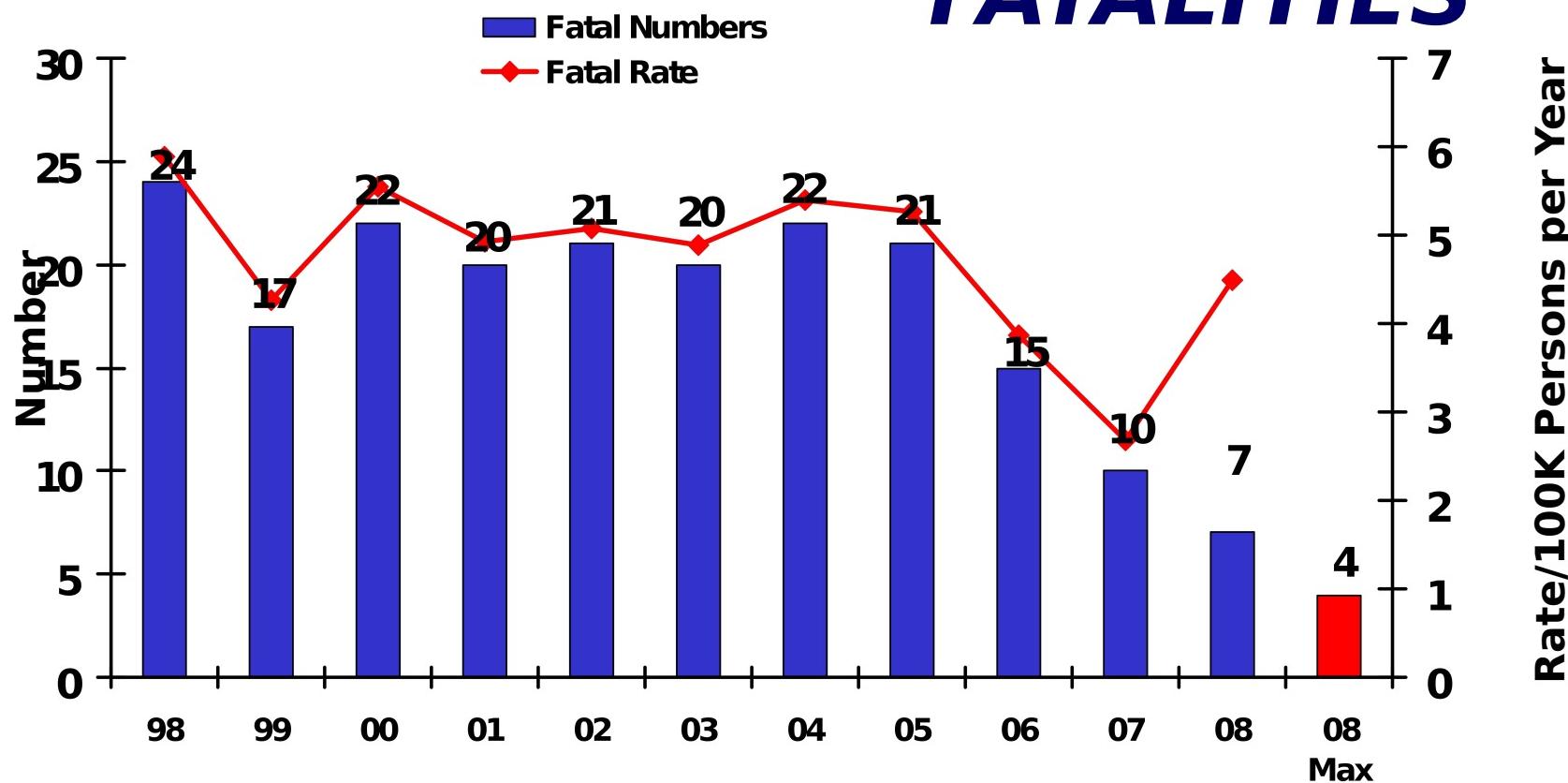


# How does ORM effect off duty fun?





# OFF-DUTY/REC FATALITIES



0 Off-duty/Rec Fatalities during this reporting period Mar 08

Mar 07 Mar - 07 Mar

CLASS A FATALITIES/FATALITY RATE FY COMPARISON: 7 / 4.50 2 /  
1.25 FY07 FATALITIES/FATALITY

RATE: 10 / 2.67

10-YEAR AVERAGE (REVS 07) FATALITIES/FATALITY RATE: 19.2 / 4.80

SUB PGCO March 2008



# Best Fleet Practices - Off-Duty Rec

- 1. Ensure all supervisors are engaged in Risk Management and Recreation, Athletics and Home Safety programs.**
- 2. RAHS Program Managers - Ensure command personnel attend seasonal hazard awareness training.**
- 3. Employ the risk management process during all on and off-duty activities.**
- 4. Use Individual Off-Duty Risk Assessment Form to assess behavior factors and indicators related to off-duty recreation mishaps.**
- 5. Make use of qualification training and skills test provided by MWR prior to using their facilities and 22**



# Fatigue. Not only dangerous behind the wheel

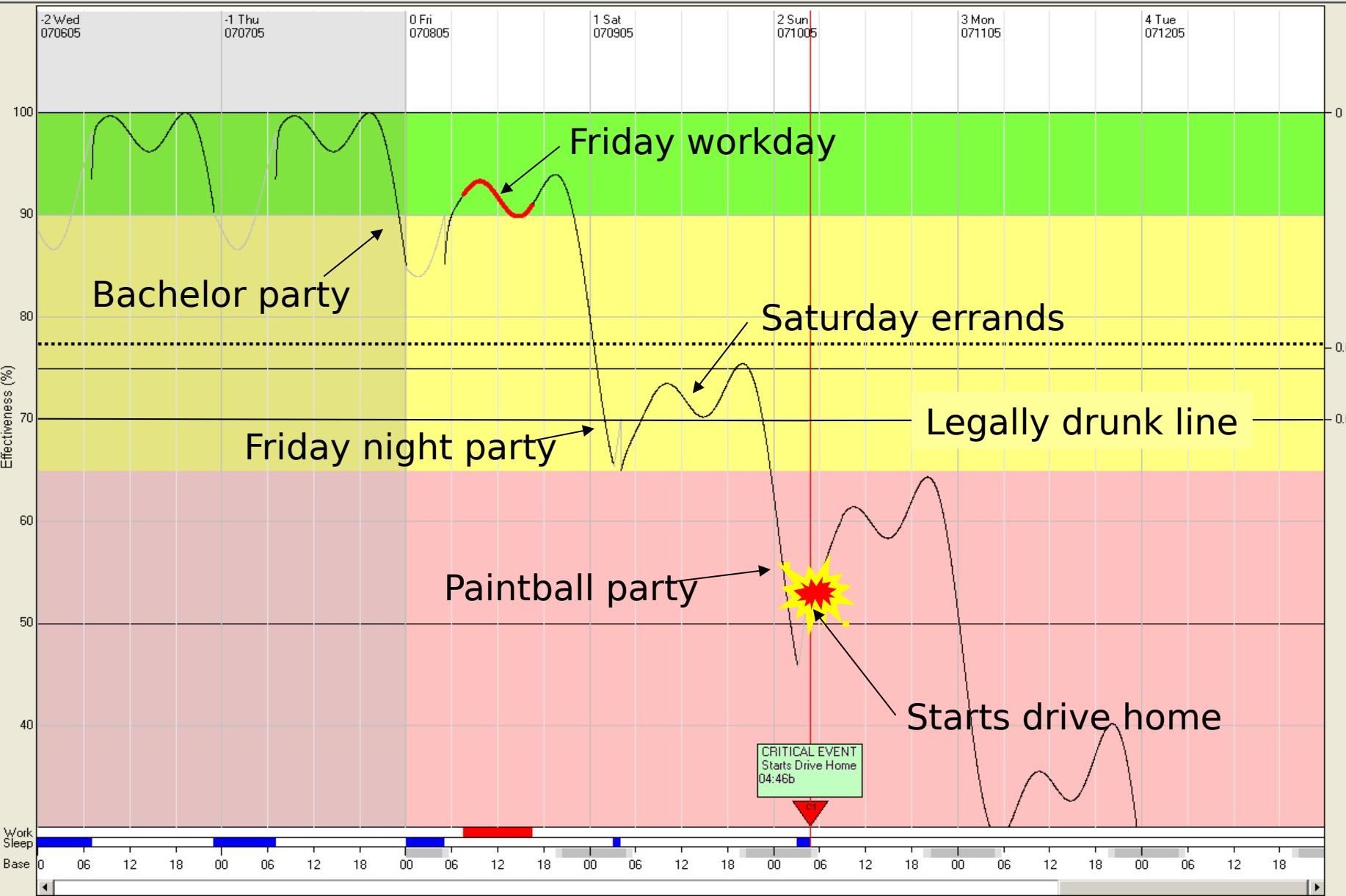


FG +0.0      SG +0.0      Time -10.00  
Rear View



# FATIGUE STUDY

- AN E-5 WENT TO A BACHELOR PARTY UNTIL MIDNIGHT, SLEPT FIVE HOURS, THEN WENT TO WORK. TOILED ALL DAY, THEN WENT ON LEAVE.
- DROVE 120 MILES TO A PARTY AND BOOGALOOED UNTIL THREE O'CLOCK IN THE MORNING. SLEPT FOR AN HOUR ON THE WAY BACK, RAN ERRANDS ALL DAY, MET SOME FRIENDS FOR A MIDNIGHT GAME OF PAINTBALL THAT LASTED, ONCE AGAIN, UNTIL THAT MAGICAL HOUR OF 0300.
- HEADED HOME AT 0445. PULLED OVER WITHIN 30 MINUTES TO STRETCH AND YAWN.
- HE THEN GOT BACK BEHIND THE WHEEL, FELL ASLEEP ON A CAUSEWAY, VEERED OFF THE ROAD AND RAN INTO TWO GUARD RAILS. HIS PICKUP TRUCK WENT AIRBORNE AND SPLASHED DOWN INTO THE BAY BELOW.
- THE SAILOR CAME TO, RELEASED HIS SEAT BELT, CRAWLED THROUGH A BROKEN WINDOW, AND SWAM TO A PYLON. FORTUNATELY, A PASSING MOTORIST HAD SEEN THIS DRAMA AND CALLED EMERGENCY SERVICES.





# Effective Use of Risk Management

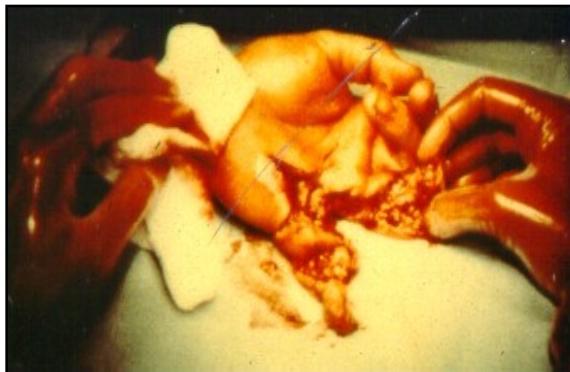


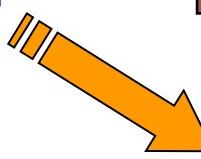
TRPS 3:23321/31330  
Sailors and Marines have died on the side of the road.



# Blue Threat...Bottom-line

Action / Inaction by **own forces**  
causing losses far exceeding  
those caused by **Red Threat**



- 
- Degradation in mission readiness
  - Impact to mission accomplishment

**What tools and tactics are out  
there to mitigate this threat?**



# ORM: Risk Management Not Risk Avoidance

## Five Steps

1. Identify Hazards



5. Supervise

4. Implement Controls

2. Assess Hazards

3. Make Risk Decisions

- Easy, common-sense process
- Mind-set
- Way of life - On and Off Duty
- Operating discipline
- Process must be taught
- Must institutionalize ORM – it's not today

YOU CAN'T “ORM” SOMETHING THAT'S STUPID, TO SOMETHING THAT'S SMART!!!

# Two Die in Submarine Evolution!

## Causes:

- Personnel did not recognize dangers of continuing transfer past the breakwater. Poor Pre-Underway brief, No what if discussion
- No controls (Go-No Go criteria) in place for the pilot transfer evolution
- Topside personnel improperly equipped for transfer, this was the standard for the command
- The ship did not immediately slow to stay within protection of the breakwater with men topside



# THE COMMANDING OFFICER





# Recommendations to Improve Safety

## 1. Naval Safety Center Website - Tools Are There!

- Traffic Safety Toolbox
- Web-Enabled Safety System (WESS) - Online mishap reporting / database
- Leave and Liberty Risk Assessments

## 2. Establish a SOLID Welcome Aboard, Sponsorship/Mentorship Program.

- First impressions are lasting ones
- On and Off duty activities must be addressed

## 3. Identify “High-Risk” personnel within your command.

- Engage leadership with subordinate personnel
- Provide awareness training on the popular high-risk activities participated by your crew and mentor high-risk personnel
- Identify motorcyclist, confirm required training is complete; add additional training requirements where appropriate



# Recommendations to Improve Safety

## 4. Be Proactive and Involved.

- Schedule a Culture Workshop / Safety Survey
- Distribute “Safe Ride” taxi cards
- Conduct safety stand-downs when needed and pre-holiday
- Require TRiPS and leave chit risk assessments prior to authorizing leave

## 5. Maintain high-visibility within command.

- Enforce Established Standards- defined command safety policy
- Treat every mishap the same (PMV/Off-Duty Fatality hurts command as much as an Operational Fatality)
- Correct safety deficiencies immediately
- Hold yourself and your personnel ACCOUNTABLE

## 6. Expect what you INSPECT.

- Verify command policies are understood and followed
- Demonstrate daily commitment to safety. If it's visibly important to you it will be to your crew.



## HAZREP Goals

- **Establish an open environment for reporting**
  - Fleet Education on DON & NSC Objective
  - Instruction revision
  - Training to encourage fleet support during surveys
  - Potential “Safety Hotline” for anonymous reporting
- **Encourage and reward reporting of hazards, near-misses, and lessons learned**
  - Improve/revise incentives
- **Identify leading indicators, maximize awareness, and prevent similar mishaps in the future**
  - Create measures of effectiveness to grade environment for hazard reporting



## Overcoming Years of HAZREP Culture

- **Reversing the trend to not report incidents**

Safety Awards are based on lack of incident reporting

ISIC driven recognition is based on staying out of the lime light

Command/Family environment of keeping embarrassing things within the command

FITREP/EVAL and advancement fears, will reporting hurt my career?



## What's A Safety Survey?

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- **One-day assessment provided by the Safety Center**
- **Survey teams improve your crews awareness in mishap prevention and safety deficiencies**
- **One-on-One hands on training with your crew.**
- **Static Appraisal**



# What We Do for the Fleet

## Naval Safety Center

Providing aviation, afloat, and shore support  
to Navy and Marine Corps commands



### NSC at your service... for free!

Let our experience, expertise and unrivaled commitment to safety work for you.

#### Mishap Investigations

Surveys

Assist Visits

Data Analysis

Workshops

Publications

Website

Presentations

Exhibits

Call 757-444-3520 (DSN 564) or visit our website: [www.safetycenter.navy.mil](http://www.safetycenter.navy.mil)

## ON THE ROAD

- Safety surveys
- ORM unit training
- Mishap investigations
- PCO briefings
- Safety Seminar/Safety Symposium
- NAVOSHENVTRACEN Safety & Occupational Health Training

## AWARENESS

- Fleet Analysis
- Magazines printed/distributed (473,000 copies)
- Interactive CD's
- Acquisition process in-roads
- Safety advisories
- Customer information requests (3,600+ database queries per month)
- Safety Center web page



# NSC Website: Your Valuable Resource

**[www.safetycenter.  
navy.mil](http://www.safetycenter.navy.mil)**

*Work, Play, Live ... Safely!*

**Naval Safety Center**

[Site Map](#) | [Search](#)

[Afloat](#) | [Ashore](#) | [Aviation](#) | [Media](#) | [OSH](#) | [Services](#) | [Training](#) | [Popular](#)

**Resources**

- [Executive Summary](#)
- [Safety Toolbox](#)
- [75% Mishap Reduction](#)
- [Presentations](#)
- [Traffic Safety Toolbox](#)
- [TRAC\(traffic risk mgmt.\)](#)
- [Success Stories](#)
- [Statistics](#)
- [Newsroom/Press Kit](#)
- [POD Notes, Slogans](#)

**Quick Links**

- [Photo of the Week](#)
- [Friday Funnies](#)
- [Safety School](#)
- [Acquisition Safety](#)
- [Safety Surveys](#)
- [Culture Workshops](#)
- [FOIA](#)
- [Secure Site \(PKI\)](#)

**Staff**

- [Biographies](#)
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Last Updated:  
August 9, 2006

**Traffic Death Update**



On August 8, an E-3 from USS Dwight D. Eisenhower was killed in a car wreck near Mt. Vernon, Ky. An E-3 shipmate was injured.

[PMV Stats](#) | [PMV Narratives](#)

Navy and Marine Corps PMV Deaths FY06 to date : **117**

**In the Spotlight**

[What's New](#) | [More Articles](#)

**• NSC Website Breach of Information Frequently Asked Questions**

**• Doing It Right Vs. Doing It Right Now**

**• NHTSA Offers Tips for Safe Summer Trips**

**• Car Show and Traffic Safety Go Together**

**• How Not to Transport Gasoline**

**• Traffic5100**

**Initiatives and Tools**





This is an official U.S. Navy Web site.

Naval Safety Center, 375 A St.  
Norfolk, VA 23511  
Contact the Webmaster or

**1-800-USA-NAVY**

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# Our Magazines Reach Every Community

## "Tell Your Story"

### APPROACH (1955)

**16,183 copies**

SAFE-Approach@navy.mil

### MECH (1961)

**17,124 copies**

SAFE-Mech@navy.mil

### SEA&SHORE (2004)

**30,442 copies**

SAFE-SeaShore@navy.mil

### Ship's Safety Bulletin (SSB)

<http://safetycenter.navy.mil/media/ssb/default.htm>

SAFE-SSB@navy.mil

### FLASH

<http://safetycenter.navy.mil/media/ssb/default.htm>

### FATHOM (1969-2003)

Out of circulation. For archives, visit:

<http://safetycenter.navy.mil/media/fathom/default.htm>

### ASHORE (1985-2003)

Out of circulation.

<http://safetycenter.navy.mil/media/ashore/default.htm>

**For distribution inquiries,  
contact:  
*ken.testorff@navy.mil*  
**757.444-3520 ext. 7251****





# PMV SAFETY SUMMIT 2006

- **April-May 2006 PMV Online Survey Results:**

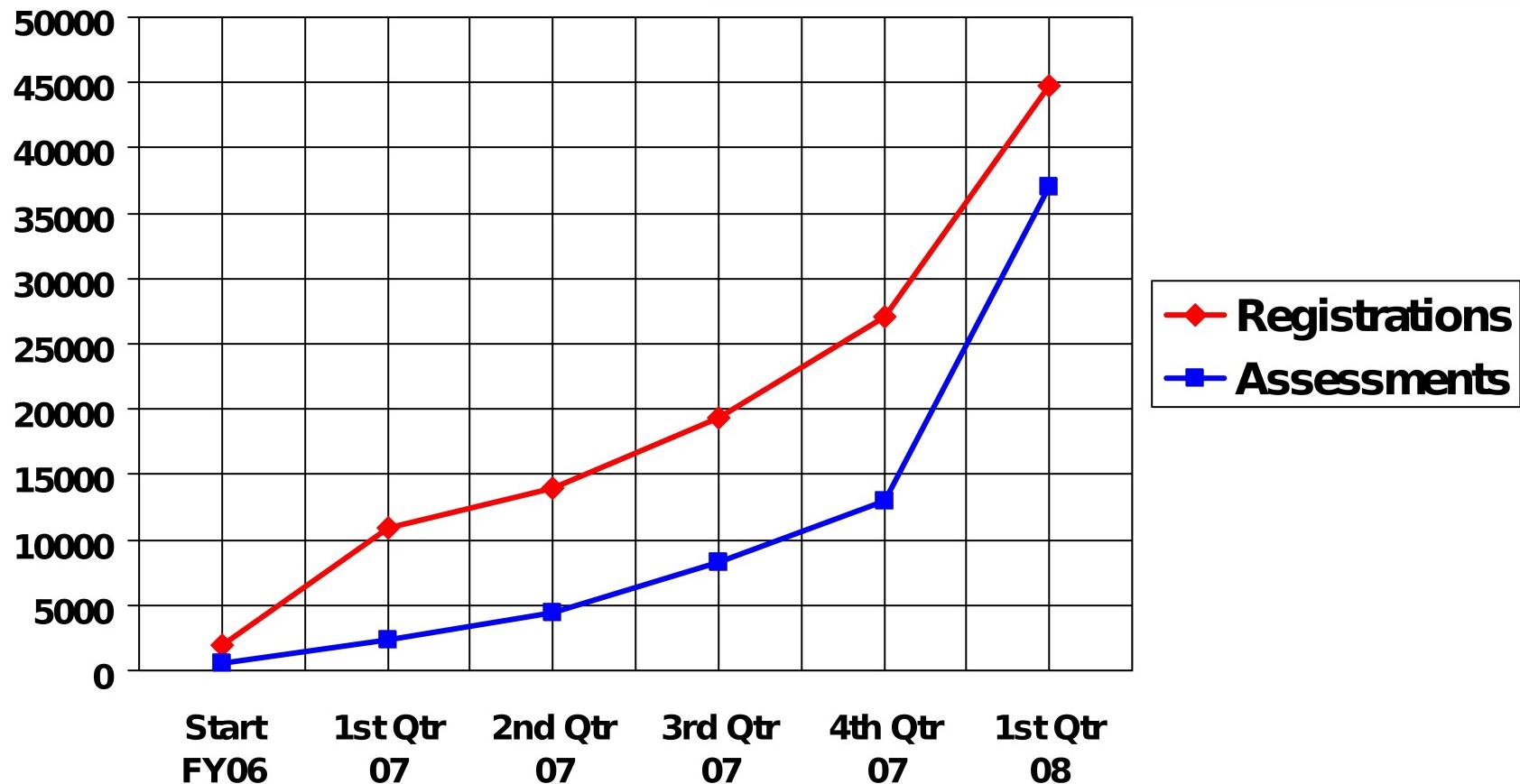
- 1 out of 23 Sailors appears to have had a DUI
  - 97% of those recently returned from deployment said they had received PMV Training
- 81% of Sailors that either had a DUI or wrecked while under the influence of alcohol had less than an Associates Degree

- **2006 PMV Focus Groups Major Findings:**

- Personnel interviewed stated they SPEED because of adrenaline, running late for work, and testing vehicle's capability
- Operational tempo and watch standing requirements were the casual factors mentioned for driving while FATIGUED
- Personnel who are DRINKING out in town are reluctant to use the "Arrive Alive" or "Tipsy Taxi" if available because individuals fear repercussion from the command



# TRAVEL RISK PLANNING SYSTEM



**TRiPS usage increasing**

65% increase in registrations

185% increase in assessments



# COLLECTING/DISSEMINATING THE DATA



- An integrated system to web enable the data collection and information dissemination safety business processes for Navy & Marine Corps.
- Allow data transfer with DOD, other Services & other systems with a stake in safety
- Allow safety customers direct access, on-line, to safety data to target mishap prevention.



# Where We're Going. . .



- **ORM - Safety Training Continuum**
  - "Enlistment to Retirement" training for every Sailor
  - Partnership with NETC/HPDC in development of 5VM safety curriculum
  - Standardize training across USN
- **Driver Improvement Program**
  - ID high-risk drivers
  - Provide focused training
  - Develop driver-training continuum
- **Naval Safety Strategy (DASN(S))**
  - POA&M to get us to 75% mishap reduction
- **Sailor 2 Sailor Safety (S2SS) Program**
  - Enlisted sailor focus groups used for immediate fleet feedback



# Our Goal...

A MISHAP-FREE  
NAVY + MARINE CORPS *Team*  
[www.safetycenter.navy.mil](http://www.safetycenter.navy.mil)





# Contacts and Resources

**Naval Safety Center Website:** [www.safetycenter.navy.mil](http://www.safetycenter.navy.mil)

**PMV/Recreation Fatalities Statistics** <http://www.safetycenter.navy.mil/execsummary/default.htm>

**Culture Workshop/Best Fleet Practices/Lessons Learned**  
<http://www.safetycenter.navy.mil/culture/default.htm>

**Traffic Safety Toolbox**

<http://www.safetycenter.navy.mil/ashore/motorvehicle/toolbox/default.htm>

**Strategic Planning/Marketing**

Derick.Nelson@navy.mil or 757-444-3520 x 77243

**Focus Groups/Traffic Safety/Off-Duty Priority Initiatives**

Traffic: [bonnie.revell@navy.mil](mailto:bonnie.revell@navy.mil) or 757-444-3520 x 7138

Community Partnerships: [dan.steber@navy.mil](mailto:dan.steber@navy.mil) or 757-444-3520 x 7137



NAVAL SAFETY CENTER

# Questions?